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Net telephony alliance vows lower prices

By Lisa M. Bowman
December 3, 1997 4:53 PM PST
ZDNN

Two Internet companies unveiled an alliance Wednesday aimed at making calls through the Internet easier and cheaper.

ITXC Corp. and iPass introduced WWeXchange, a service that eventually will allow users to make international and local calls to any phone, even if the person being called is not equipped with Internet telephony technology.

Beginning in April, WWeXchange will route international calls from disparate Internet telephony companies through a single gateway in the area being called. If there is no gateway in that area, WWeXchange will use a combination of Internet and traditional telephone services.

"Internet telephony is jut becoming an alternative to traditional long distance for people who aren't using PCs," said Tom Evslin, ITXC's chief executive, and the former head of AT&T Corp.'s WorldNet Internet Service. "WWeXchange makes it possible for any Internet caller to reach any phone in the world."

Currently individual Internet telephony providers -- the companies that route telephone calls through the Internet -- have to strike deals directly with each other if they want to reach customers in certain areas. And it's nearly impossible for people to make Internet calls to areas not already equipped with a gateway, which connects computer lines to phone lines.

ITXC, based in North Brunswick, N.J., is a

venture of AT&T and Internet telephony company VocalTec. iPass, based in Mountain View, Calif., is a remote Internet access company and will help coordinate the billing services for WWeXchange.

The main appeal of Internet telephony is the reduction in cost, though it's often at the tradeoff of quality, which can be scratchy and delayed. Calls made through the Web can cost as much as 70 percent less than traditional long distance calls, especially those made internationally.

ITXC's Evslin said WWeXchange will lower international calls to areas without gateways by connecting the calls through the United States, which often offers the cheapest long-distance rates. For example, WWeXchange will cut the costs of a call from Germany to South Africa by making the first leg of the call, from Germany to the United States, through the Internet. The caller will then be connected to a U.S. telephone carrier serving South Africa.

Evslin said WWeXchange is the first step toward a day where such technology will allow users to talk simultaneously while sharing data, sending faxes or even playing games over the Internet.

"We're going to see some offerings that are perhaps as exciting as the development of the World-Wide Web itself," Evslin said.

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Top

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- IBM builds Web
  links in video
- How low will they
  go?
- AM Investor:
  Rocky road

Page One

Headline Scan

News Bursts

Will Regulators Determine IP Telephony's Future?

By Paula Bernier
October 29, 1997 2:22 PM PST
Inter@ctive Week

Internet Protocol-based voice providers thus far have escaped the grasp of regulators in most parts of the world. But as their services evolve, regulation is likely to play a bigger role, says Craig Blakeley, a lawyer with Chicago-based Gordon & Glickson PC.

"Now, IP [Internet Protocol] telephony is [typically] offered as an ancillary service by Internet service providers," says Blakeley, who represents several IP voice companies. "But as companies come out to you and say, 'I'm going to offer you telephone service,' as latency improves and as other problems diminish, it becomes more fungible to become a mainstream service. What's interesting is that improvements of the technology are going to change the way it's regulated," he says.

In March, the America's Carriers Telecommunications Association (ACTA), a group of small and medium-sized U.S. phone service resellers, filed a petition with the Federal Communications Commission saying Internet telephony was a major threat to its members' economic well-being. ACTA was talking at that time about Internet telephony PC software providers such as VocalTec Inc. (www.vocaltec.com).

"[The group's] argument was 'They look like a telephony company, they ought to be regulated like one,'" says Blakeley. "The idea that a software provider is a telco seems odd. But when you have a company that sells

1 of 3

software, service [and] there's improving voice quality and direct marketing, there will be movement toward regulation."

The FCC has yet to act on that petition. The commission also declined to alter the rules that let Internet service providers (ISPs) avoid paying access charges to the telephone companies that terminate their customers' connections. Changes in that policy, which categorizes ISPs as enhanced service providers, would have greatly altered the IP voice arbitrage opportunity.

However, the FCC is considering the impact of the Internet on the public telephone network and whether there should be any regulations imposed. The FCC (www.fcc.gov) issued a Notice of Inquiry on the matter several months ago and is now accepting input.

Meanwhile, the European Commission, the FCC's counterpart in Europe, is considering whether voice over IP should be regulated as is the public switched telephone network abroad, Blakeley says. The EC has compiled a document that says IP telephony shouldn't be considered voice.

Interestingly, however, it has set conditions for when IP telephony should be regulated: Once a carrier markets voice as a primary service; when it's between two points on the public switched telephone network (PSTN) (so corporations running IP voice over private T1 or E1 lines at both or either end of the Internet voice link would presumably not be included in the regulations as defined); and when it becomes real-time. (The EC says IP voice is not real-time because of the delay. But even the PSTN has some time lag.)

Another matter indirectly related to Internet telephony is the move by the FCC to drive down the rates foreign carriers charge U.S. carriers to terminate their calls. FCC outgoing Chairman Reid Hundt has said the commission will pressure foreign carriers to drop their rates by espousing Internet telephony, for which those carriers would not receive fees.

"We're essentially the primary club [the FCC has] to drive down international termination rates," says Dan Berninger of VocalTec.

But if foreign telephone companies reduce

their rates, it would seem Internet telephony carriers, which rely heavily on the arbitrage opportunity, would suffer.

Beminger says that's not a concern for VocalTec and its carrier customers.

Internet telephony will still be less expensive than PSTN voice because the cost of the equipment is much less than telco switches; it's more bandwidth efficient; and next-generation telcos have far less overhead and marketing costs to add to the cost of providing the actual service, Beminger says.

The FCC is considering the impact of the Internet on the public telephone network
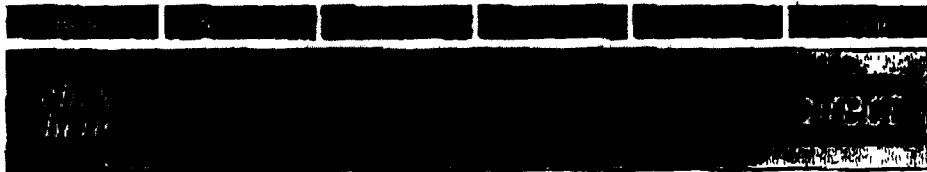
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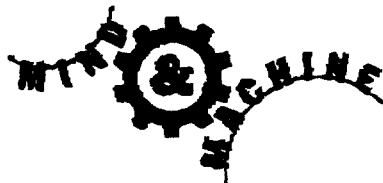| | Search |

Top

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CyberTimes

The New York Times on the web

January 7, 1998

By ASHLEY DUNN

More Phone, Less Computer, Behind New Generation of Internet Phones

The telephone companies have managed to make a muck of most of their efforts to catch the Net wave. Their bungling over the pricing and deployment of ISDN is probably the biggest sore point among computer users, who curse the telcos everyday for dooming them to a 28.8 world.

But even the dinosaur-like telephone companies still have a thing or two to teach the new upstarts of the Net world. For decades, the established companies have provided high-quality voice service that, for the consumer, is essentially transparent. There is no simpler device in our homes than the telephone.

In the past few months, this lesson that simple is beautiful has begun to creep into the minds of the small group of companies exploring the world of consumer-level Internet protocol (IP) telephony. Instead of relying on the computer as a telephone terminal — a strategy first used by all the Internet phone companies — they have simply moved voice communications back to where it belonged: the plain old telephone.

Vocaltec, a pioneer in Internet telephone software, introduced last year a software system that allowed people to use their regular telephones to dial into special gateway servers that would route their calls over the Internet. The voice quality is good and the time lag is not very noticeable if the server has a good connection to the Net.

The only problem with Vocaltec's gateway system is that you can only call in areas that have a gateway system installed. For large companies, this isn't a problem since they can create their own servers, but for consumers it just doesn't work unless you are lucky enough to be in the local calling area of a gateway and are always calling someone who also lives near a gateway.

One of the most interesting services is Jeff Pulver's Free World Dialup II. The service only has about two dozen nodes, although they include such interesting spots as Moscow, Hong Kong, Seoul and Athens.

Related Article
Internet Telephony: Advances Start to Show (December 17, 1997)

Now, a French company named Aplio has entered the IP telephony fray with a new product simply called the Aplio/Phone. All it requires of the user is a phone and an Internet connection. You don't even need a computer to use it, although both caller and receiver must have an Aplio device for the system to work.

To use the device, which should be available by February, you first dial the number you want to call. When the person on the other end picks up the phone, you press a button on the Aplio device, which then disconnects your phone and starts to establish an Internet connection between the two devices.
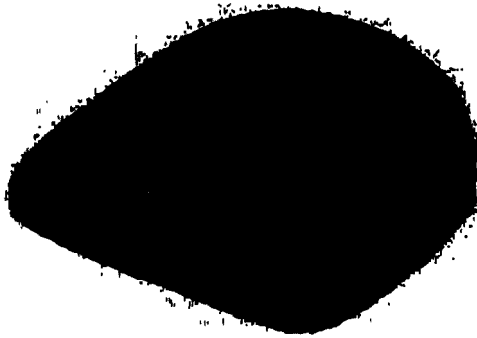
Aplio/Phone

The Aplio/Phone will prompt you to hang up your phone and in about a minute or so, it dials you back. You then pick up your phone and continue your conversation. This time, however, your voice is being carried over the Internet.

For the price of just one minute of regular calling, you can now talk as long as you want. If your mother lives in Peking, the savings can be enormous.

The sound quality of the device is very good, largely due to the dedicated chips inside that handle the compression and decompression of sound. It's also relatively easy to use once you have configured the device with your ISP's phone number, your login, password and other information.

The Aplio devices works through a kind of matchmaking that takes place over both the regular phones lines and the Internet. The moment you press the Aplio button, the caller's and receiver's devices identify each other over the phone lines. They then disconnect from regular phone service and call their respective ISPs. Once they have logged in, each device polls a special Aplio meeting server and begins searching for the device that it had previously identified. Once the devices have found each other, they exchange IP addresses and a connection is made between the two.

Then Aplio/Phone, along with systems like Free World Dialup, clearly show that Internet telephony is close to being a consumer reality. But the important word here is "close." It's not quite there yet.

Even though the Aplio device is an advance over the cranky and hard-to-configure, PC-to-PC variety of telephony, it still falls far short of the plain old telephone system.

The biggest problem is the lag, which is not Aplio's fault, but is still its problem. The delay can range from 300 milliseconds to about 1 second. Aplio claims that there is an average 500 millisecond delay in conversations. That doesn't sound like much, but compared to the few dozen milliseconds of a typical phone conversation, it can seem like an eternity.

Relaxed conversation is very difficult when you're always waiting for the other person to finish talking or uncertain if they heard everything you said. While the Internet phones allow full-duplex communications (in other words, two people can talk at the same time), in reality, it ends up more like half duplex, an experience comparable to two-way radio communication.

The lag would be endurable for many of us except that the price of the Aplio/Phone ($199 for one, $379 for two) puts it well into the terrain of the exotic. While businesses may find a use for this device, I suspect only a few consumers will be willing to pay that price.

Aplio and the VocalTec gateway systems are the first generation of devices aimed at bringing Internet telephony to the masses. There are still a few more years to go for this technology to mature, but its time is certainly coming.

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DATE 1/14/98   PAGE 10

Using the net · Nicholas Denton

Telephones on the receiving end

The internet will become more like the traditional telecoms network

The mythology of internet telephony goes something like this. The internet is innately more efficient at transmitting information than the telephone network.

Voice can be transmitted in the form of packets of data, which travel across whichever route across the internet is not being used to capacity. These packets need only contain the actual substance of the exchange: an internet telephone call, unlike one over the traditional network, does not waste space on the silences and pauses that make up a typical exchange.

And – this is the clincher – the internet is free, giving voice services over the network an inherent cost advantage over their traditional competitors. Consumers are already benefiting. A personal computer user, with internet telephony software from a company such as VocalTec of Israel, can already reach a similarly equipped user anywhere in the world for the price of the local telephone call to access the internet.

It seems no wonder then, that John Sidgmore, chief executive of WorldCom's internet subsidiary, forecasts that, as fax and telephone calls migrate to the new network, traditional voice transmissions will by 2003 represent just 1 per cent of total traffic.

That may well be the case, extrapolating current trends. And there is some truth in the hype surrounding internet telephony. There is little doubt that the migration of voice to the internet will transform the economics of telecoms services.

But the internet, in absorbing voice and videoconferencing calls, will become more like the telephone network it is supplanting. That applies to the architecture of the network, and to the pricing of services carried over it. In prospect it is not so much a takeover of the telephone system by the internet as a merger between the two.

The two networks already work together. An electronic mail message sent from a home PC will typically travel over the user's telephone line to the local exchange, where it is routed to a modem bank operated by an internet service provider. It is routed on to the internet "backbone", the main line of the network, which does not exist in a physical sense: it is typically a reserved portion of the high-capacity trunk lines operated by a long-distance carrier such as Sprint or British Telecommunications.

A host of new services straddle both networks. For instance, Tele-Post, a venture backed by TeleNor of Norway, plans to offer a conference calling centre accessible from a PC connected to the internet. But

TelePost calls the user's standard telephone and those of the other participants to line up the call, rather than entrust it to the vagaries of the internet.

And, on a superficial level, just as PCs with a microphone can now be turned into speakerphones, so devices which look very much like telephone handsets but which can access the internet are being unveiled. Cidco's iPhone, for instance, offers simple touch-screen access to the worldwide web as well as the features of an advanced telephone such as conference calling and caller ID.

All these are examples of today's hybrid – and transitional – network. "If you look at where we are today, we are just starting: what we have a lot of the time is voice networks pretending to be data networks," says Bill O'Shea, president of the business communications systems unit of Lucent Technologies, the largest US telecommunications equipment maker.

Over time, the seams between these networks will become less visible. "It is not a question of whether it will happen. It is going to happen: the question is how quickly," says John Chambers, chief executive of Cisco Systems, the leading maker of the router machines which act as traffic guides within networks. "You can't afford a separate network for voice, one for video and one for data."

Already, purchasing decisions within enterprises – for both networking and telecommunications equipment and services – are increasingly being determined by a chief information officer, to whom the managers of the two networks report.

At a slightly slower pace, the public telephone network and the internet are also fusing. UUNet recently launched a service called UUFax, for instance, which takes fax transmissions that would have travelled over expensive long-distance telephone connections, and reroutes them over the internet.

The economics of fax transmission over the internet are compelling, because it does not matter if a fax is sent in the form of packets, bounced around the network and reassembled, with a few seconds delay, before being forwarded on to the recipient's fax machine. But voice conversations are more demanding.

Because some packets get lost, or arrive in the wrong order, voice

calls over the internet can result in broken conversations. There are two main solutions. The first is to route voice calls over a private internet-style network. as does Qwest Communications with the carrier's new internet telephony service.

The second is a concept called tag-switching. devised by Cisco and being evaluated as a standard by the Internet Engineering Task Force. With tag-switching. the first packet carries the equivalent of the pass that allows business passengers to go through a fast lane at customs. It clears a path for subsequent packets.

Both schemes recreate the dedicated connection which ensures good sound quality on traditional telephone networks. But, because the ticket is business class rather than standby. it is more expensive.

Some experts, such as Gian Pablo Villamil of Andersen Consulting's communications division. argue that internet telephony still has an inherent cost advantage, because it takes advantage of the economies of scale available in the computer industry. Analysts maintain a basic international voice-over-internet network can be built for under $100m.

For users. though. the cost advantage for high-quality communication is not nearly as great as the enthusiasm surrounding free internet calls would suggest. Qwest offers long-distance calls at 7.5 cents a minute, compared with 10 cents low rates over traditional networks charged by carriers such as AT&T. Sprint and MCI.

In countries such as Italy and South Korea, where discount carrier IDT first offered its internet telephony service. international tariffs are sufficiently inflated to allow internet calls to come in up to 80-90 per cent cheaper. But internet telephony carriers have found few opportunities on routes where competition is already intense. such as that between the UK and US

Internet telephony may take its place alongside callback and resale in undermining the international price-fixing regime in telecommunications. But that is an arbitrage opportunity created by differing regulatory treatment of traditional and internet calls.

As internet telephony providers exploit this artificial price gap, they will erode it. And their own costs will increasingly reflect the underlying cost of a dedicated connection. Even as the internet transforms the telephone network, it will increasingly resemble it.

26

TELECOMMUNICATIONS

AT 7½¢ A MINUTE, WHO CARES IF YOU CAN'T HEAR A PIN DROP?

Why long-distance Internet calling is about to take off

How can Qwest Communications Corp. get away with charging just 7½¢ a minute any time for long-distance calling—the ultra-aggressive pricing it announced on Dec. 15? For one thing, according to President and Chief Executive Officer Joseph P. Nacchio, "Long distance is still the most profitable business in America, next to importing illegal cocaine." As head of long-distance marketing for AT&T until last year, he should know.

Actually, Qwest can make its audacious offer—and still match AT&T's 17% to 20% net margins—because it sends its traffic over a private fiber-optic network using Internet technology. That method, says Nacchio, is far more efficient than that of the conventional carriers. Indeed, if Qwest makes its mark in long distance, it won't be for undercutting AT&T's best all-day rate by 50%—it will be for proving that Internet-based calling can steal significant amounts of traffic from ordinary long-distance circuits.

EASY TO USE. Qwest's offer heralds the coming of age of Internet telephony. Just a couple of years ago, making phone calls over the Internet was a challenge reserved for computer whizzes. Consumers still will have to dial a few extra digits to make cheap calls. But now, improved PC-based software and routers make it possible for Internet service providers to accept standard telephone and fax calls and send them over the Internet or private data networks and then back to the conventional phone network.

As a mass market develops, companies such as AT&T could lose millions of customers and billions in revenue to Internet calling. "In the next 24 months, we'll see a rapid migration," predicts Nacchio. Between 1998 and 2001, as much as $8 billion could be lost to Internet telephony, says Sim Hall, vice-president of research at Action Information Services of Falls Church, Va. "Internet telephony is going from novelty to mainstream next year," agrees Jeffrey Kagan of consultants Kagan Telecom Associates.

Besides being more efficient than standard voice networks, which consume bandwidth even when there is silence during a call, the new networks also bypass conventional long-distance carriers, who must pay local-access charges and taxes. Such fees make up 40% of the typical long-distance charge, Hall notes.

Unlike the pioneers of Internet telephony, bigger companies like Qwest mostly route traffic over their own networks. That lets them manage capacity to avoid the scratchy sound and half-second delays of some Internet phone setups.

Qwest isn't the only company with big ambitions in Net calling. WorldCom Inc.'s Internet division, UUNet, is taking aim at the $92 billion fax market. Early next year, it will offer nationwide faxing for 10¢ a minute, compared with the typical business rate of 15¢ a minute. International faxes to Britain will cost 19¢ a minute, half the average rate now.

Denver-based Qwest, which is building a $2 billion nationwide fiber-optic network, will offer its 7.5¢ rate on calls anywhere in the continental U.S. starting in late January in nine western cities. The network will expand to 125 markets in early 1999, when Qwest's national network is scheduled to be completed. Qwest also plans fax, videoconferencing, and other services.

Established long-distance providers are making their own forays with the new technology. In August, AT&T began offering domestic and long-distance calls from Japan at 40% off normal rates. Japan's Kokusai Denshin Denwa Co. created a subsidiary offering similar services worldwide on Dec. 16. MCI Communications Corp. and Deutsche Telekom are running trials.

While the data networks will help cut domestic long-distance rates, the big impact will be on international calls. The average long-distance call in the U.S. costs about 13¢ a minute, but the average international price is 89¢, Hall says. The gap has little to do with the extra cost of an international call, which is marginal. Rather, it reflects the pricing power of a small group of suppliers.

Hall predicts that phone company revenues per minute on international calls will fall more than 20% annually through 2001 and continue to decline. "The wheel has been set into motion," says Hall. Nobody knows how far it will spin, but at this point, it looks as if consumers will be the winners.

By Steven V. Brull in Los Angeles, with Peter Elstrom in New York

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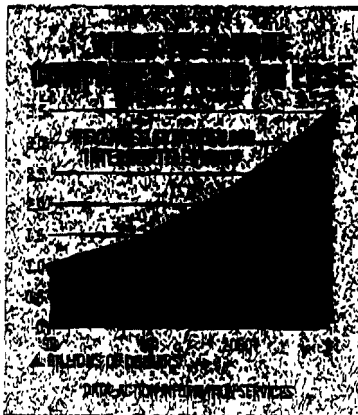
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